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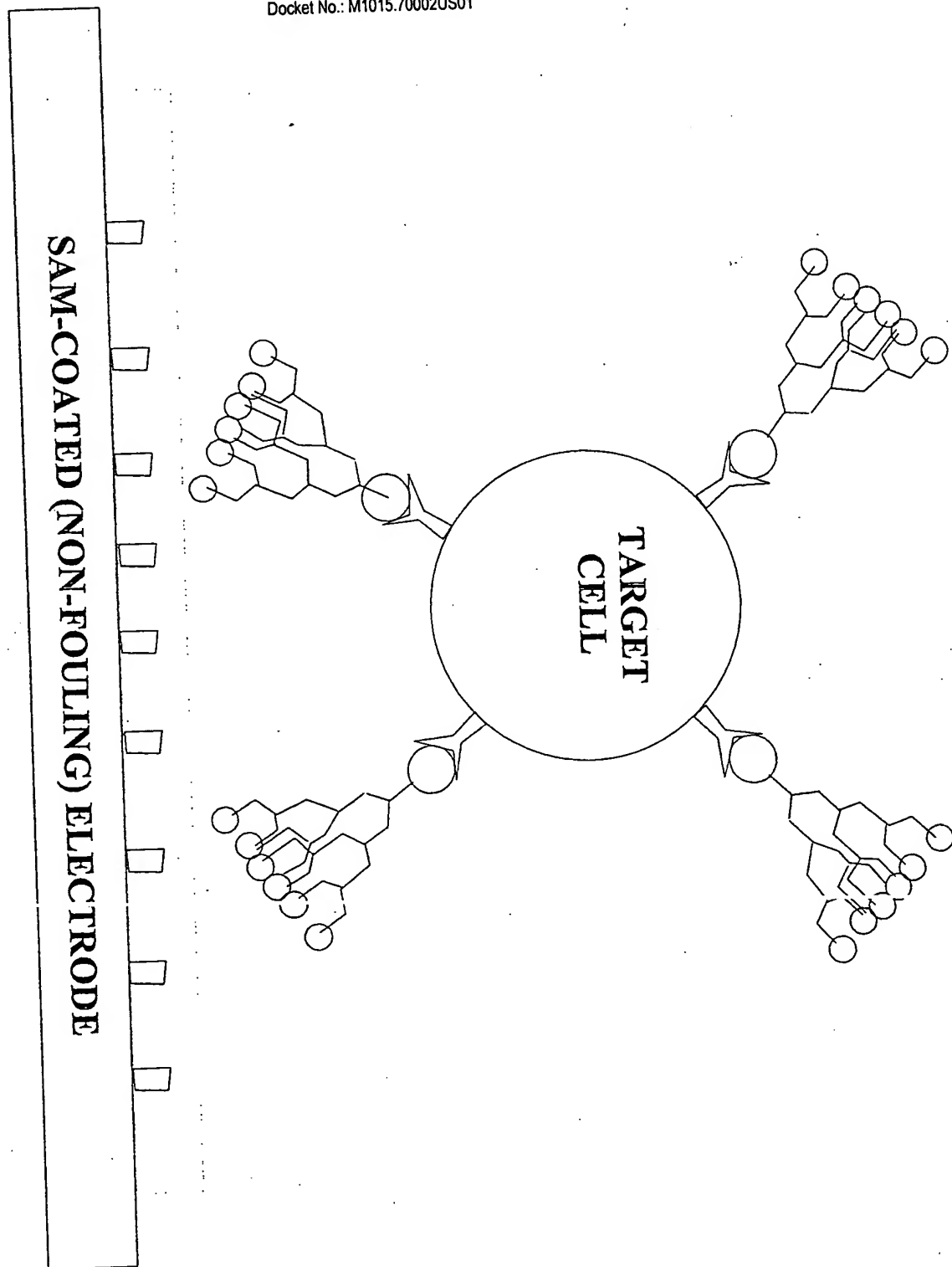
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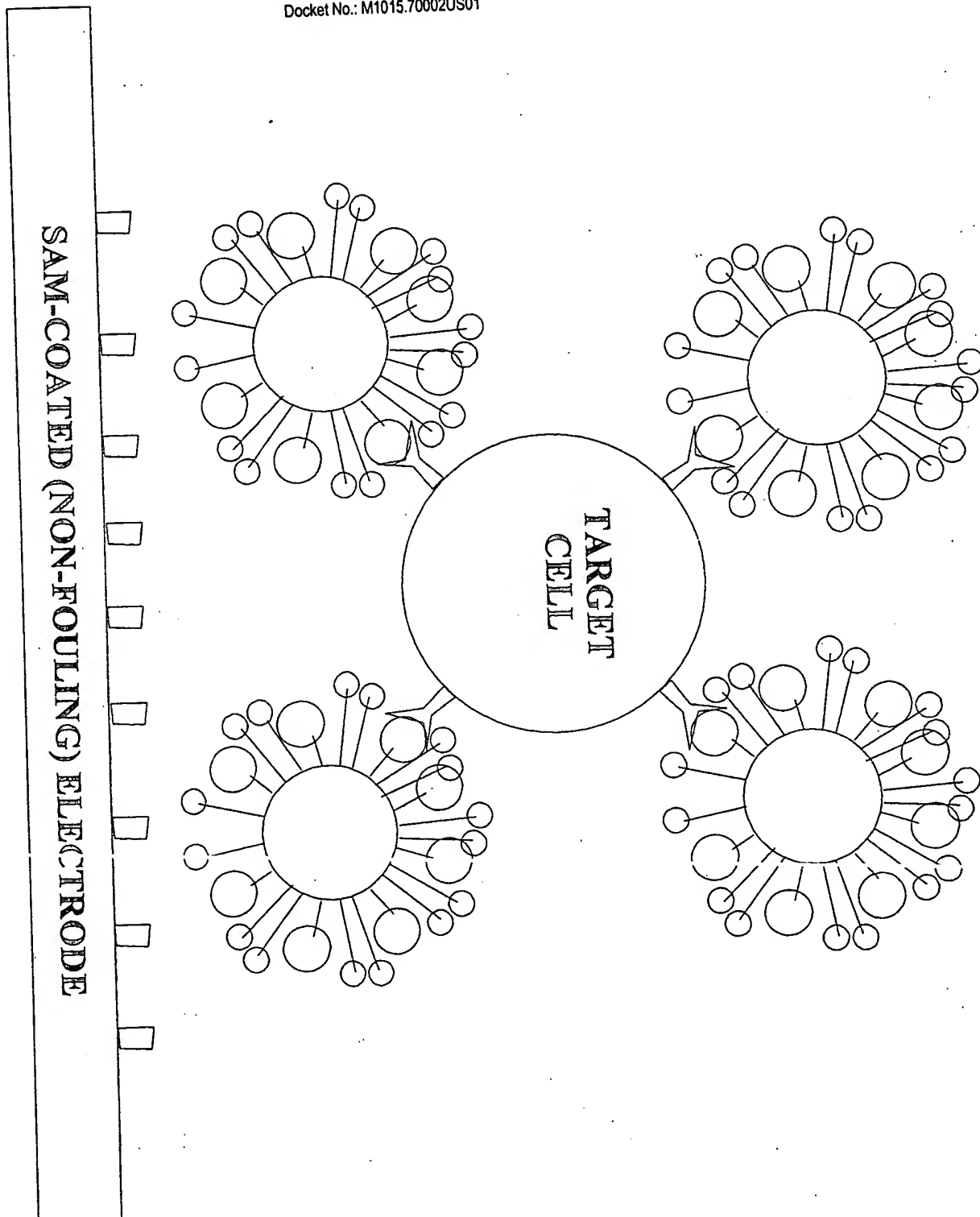


Fig. 2

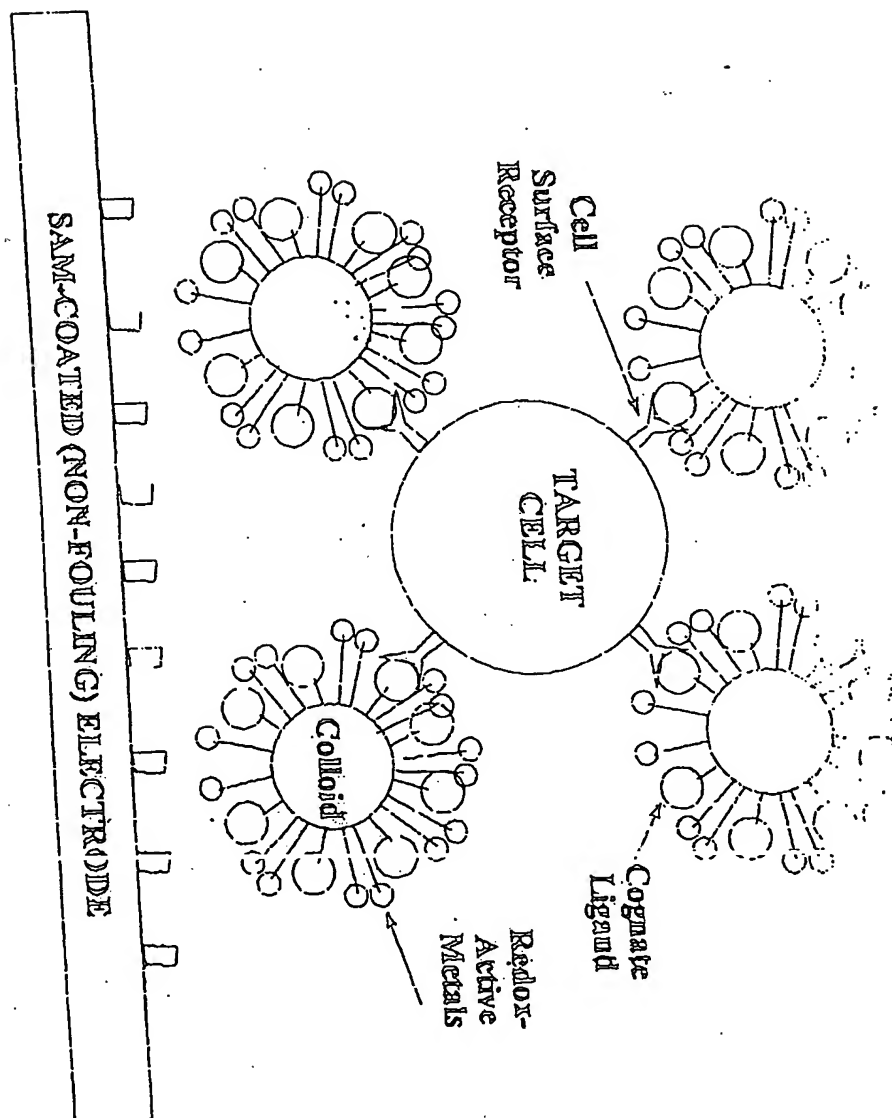


Figure 3

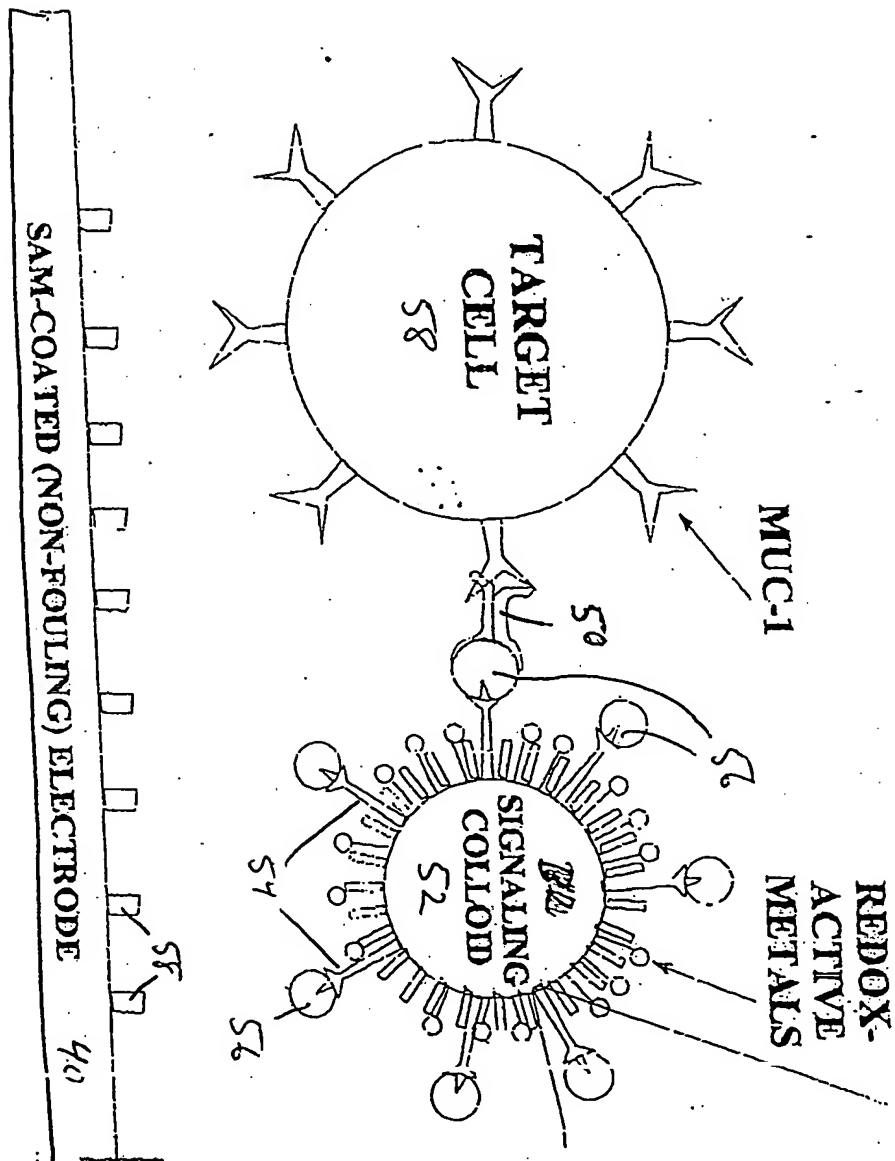


Figure 4

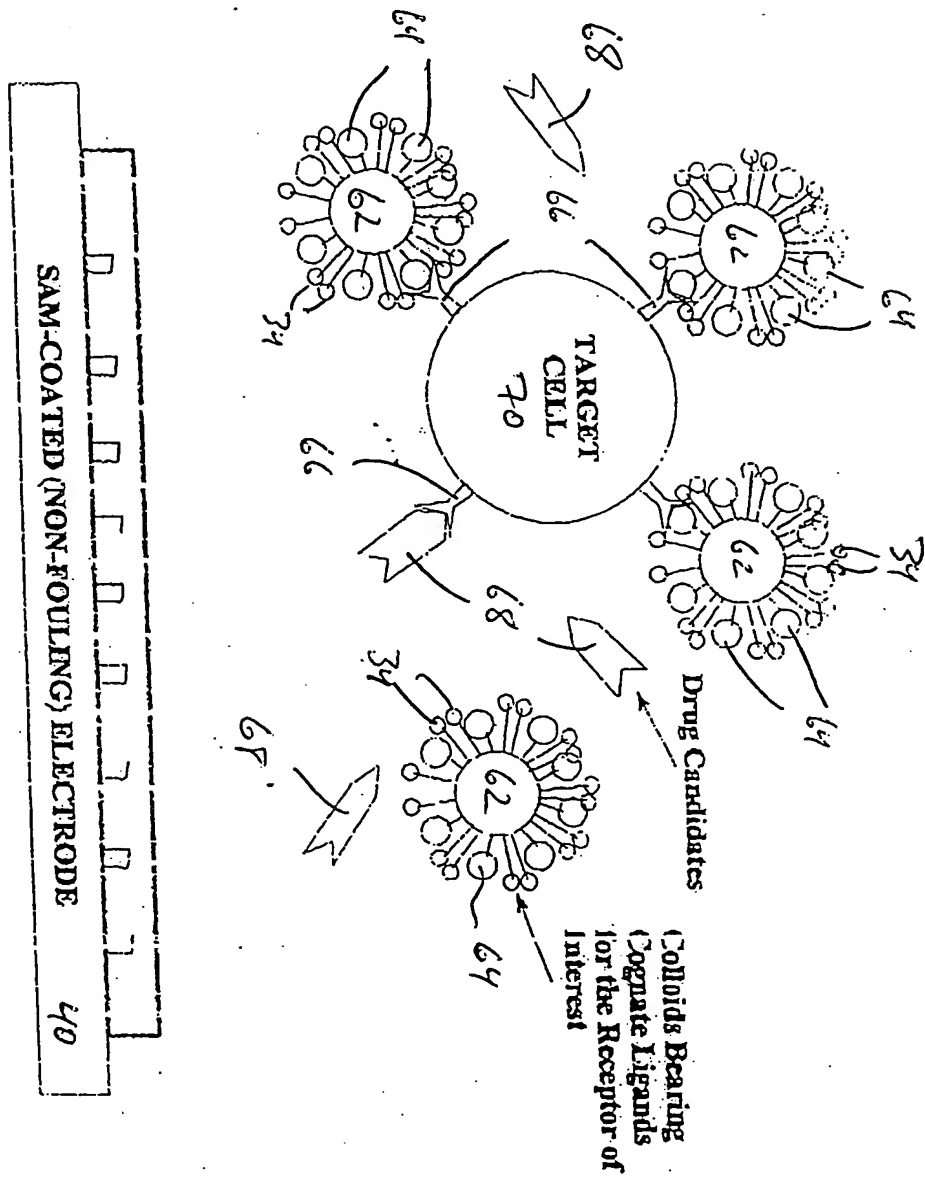


Figure 5

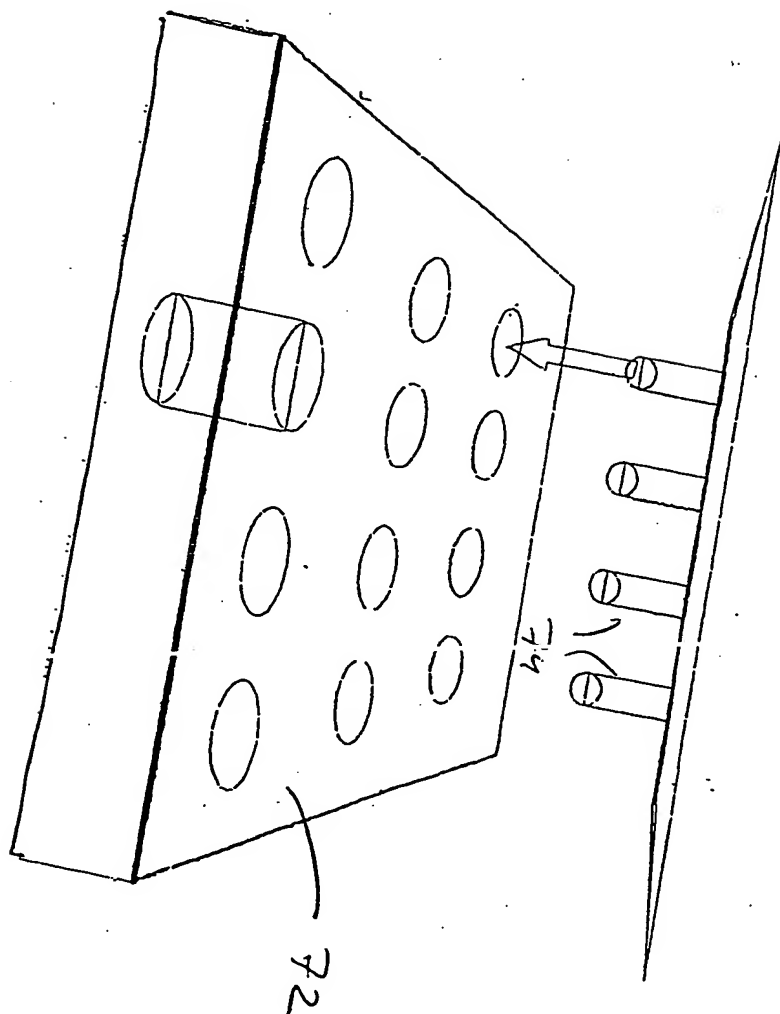


Figure 6

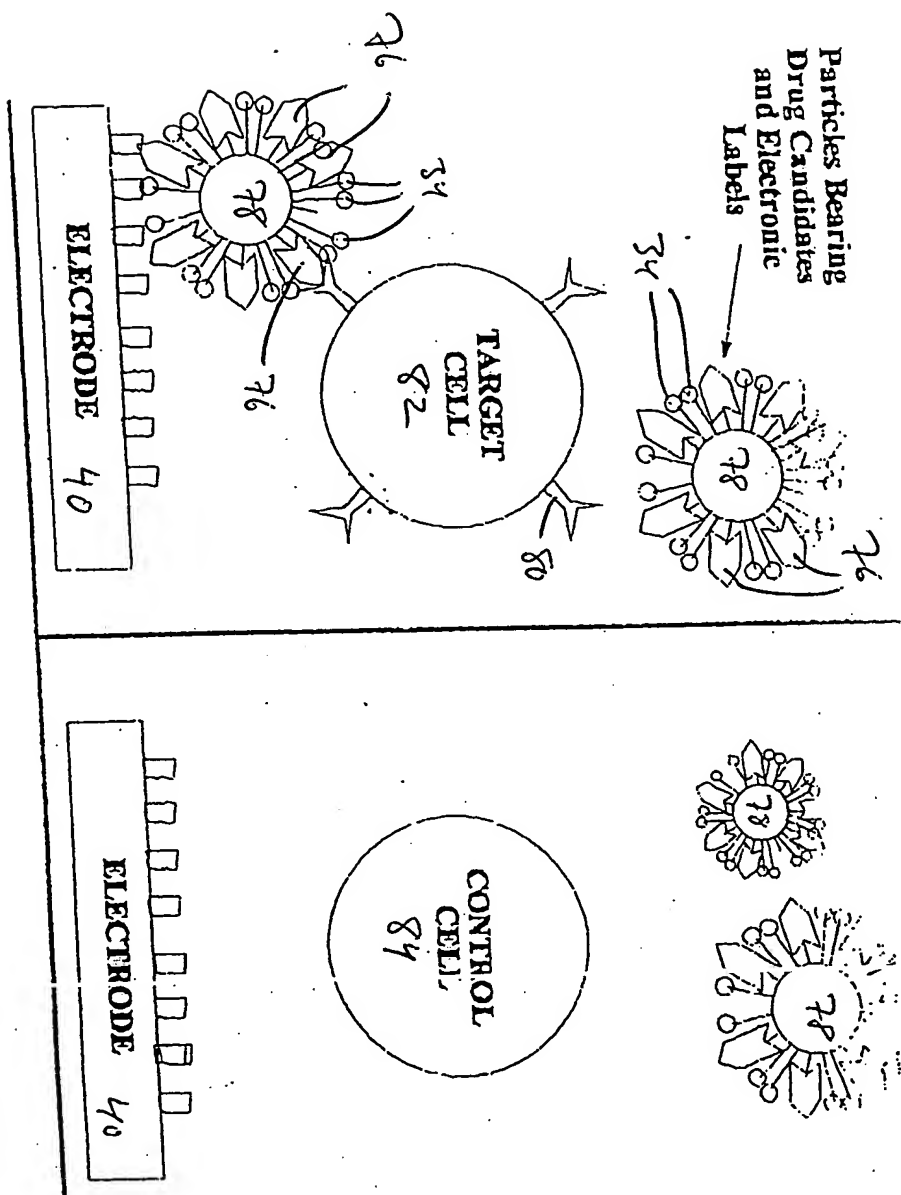


Figure 7

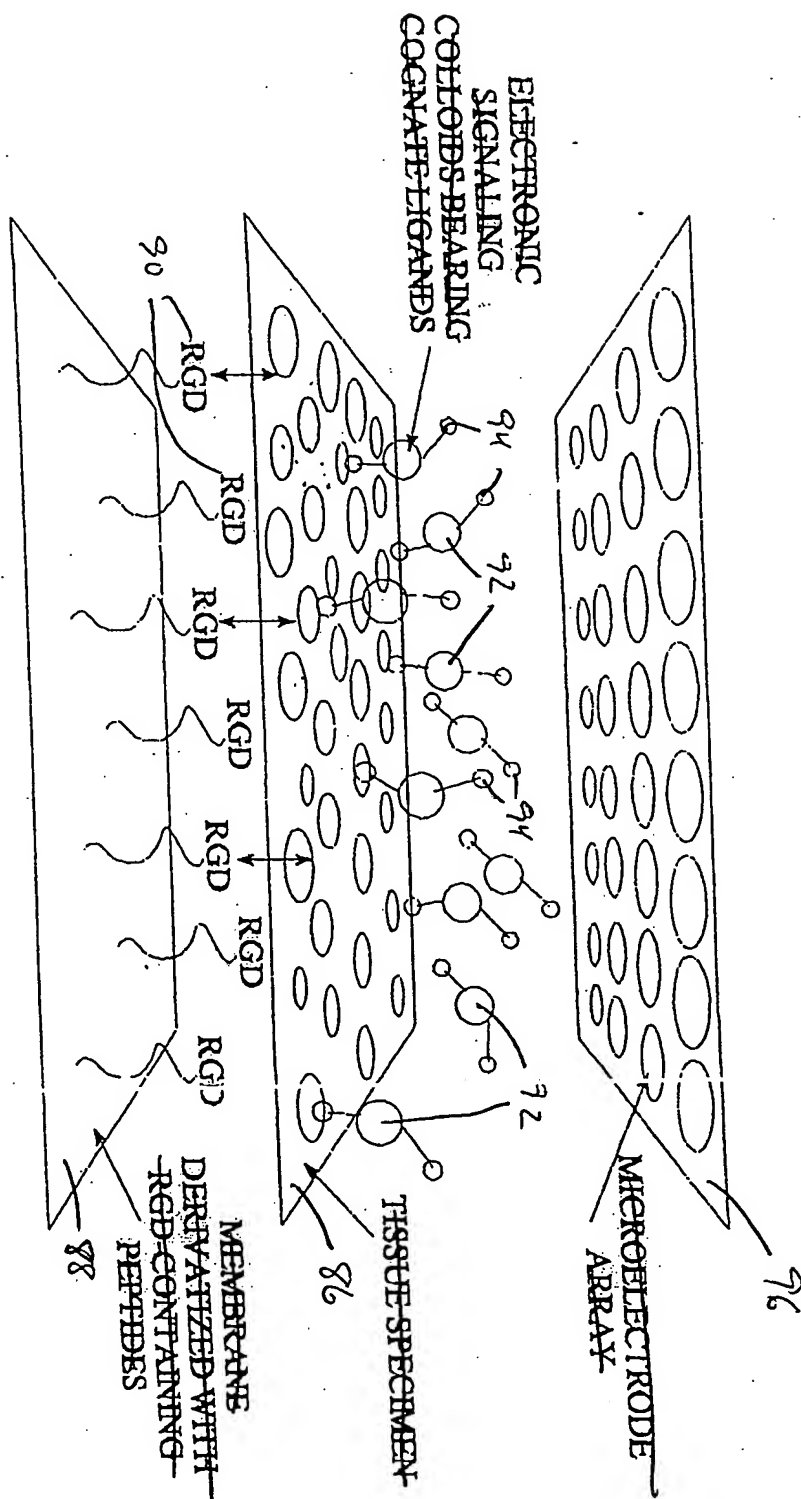


Figure 8

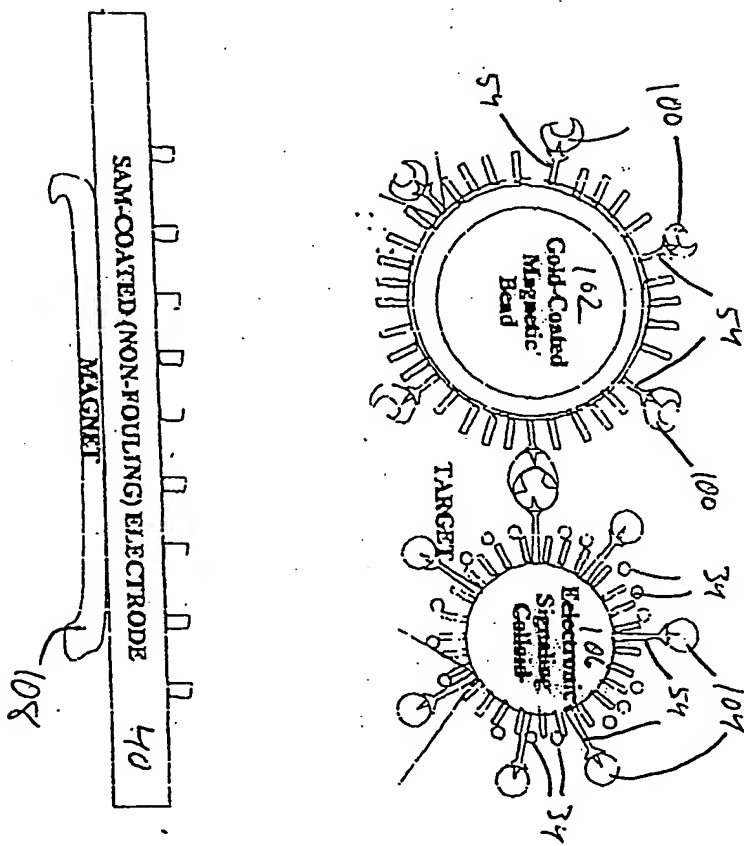


Figure 9

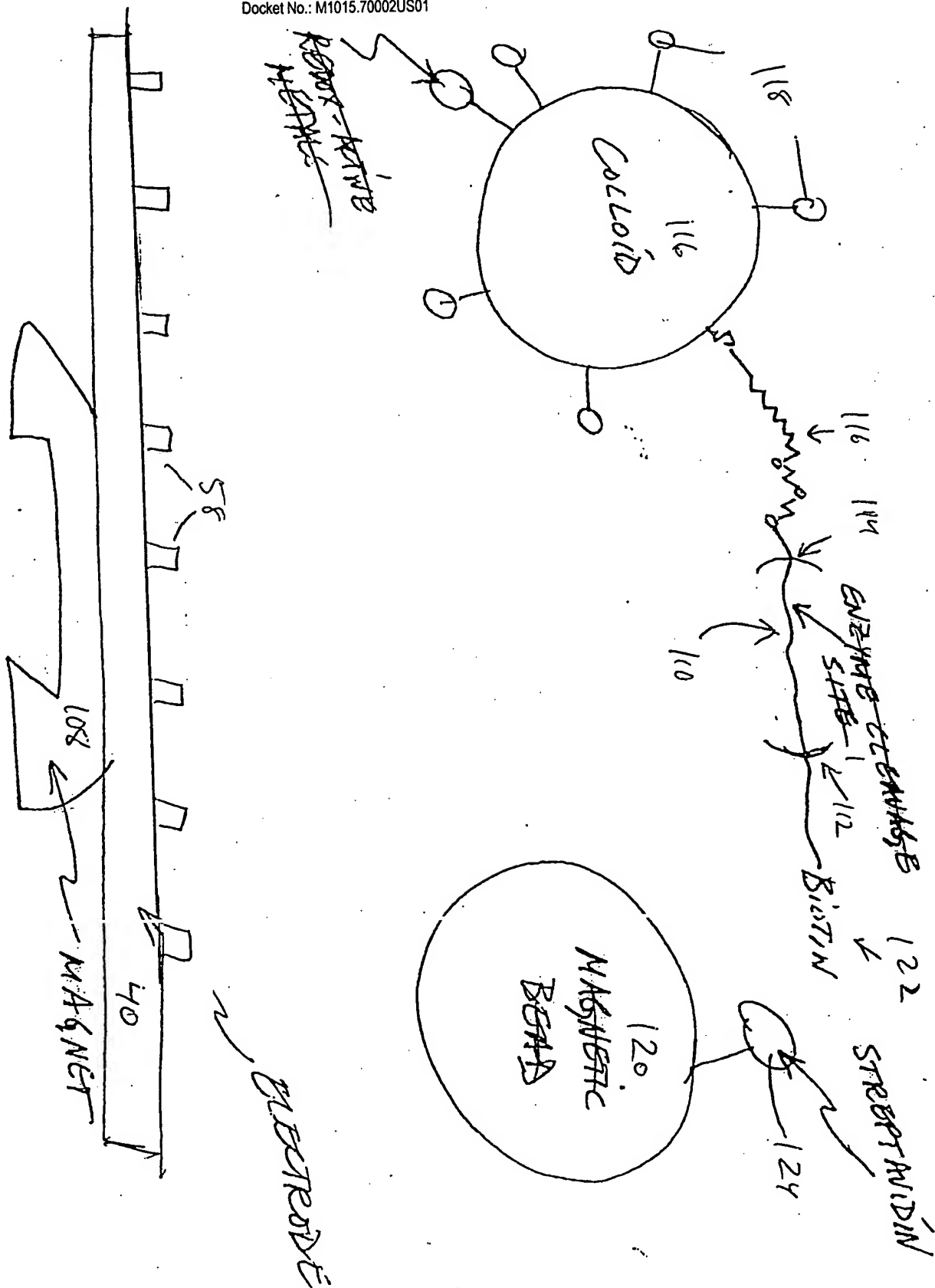


Figure 10

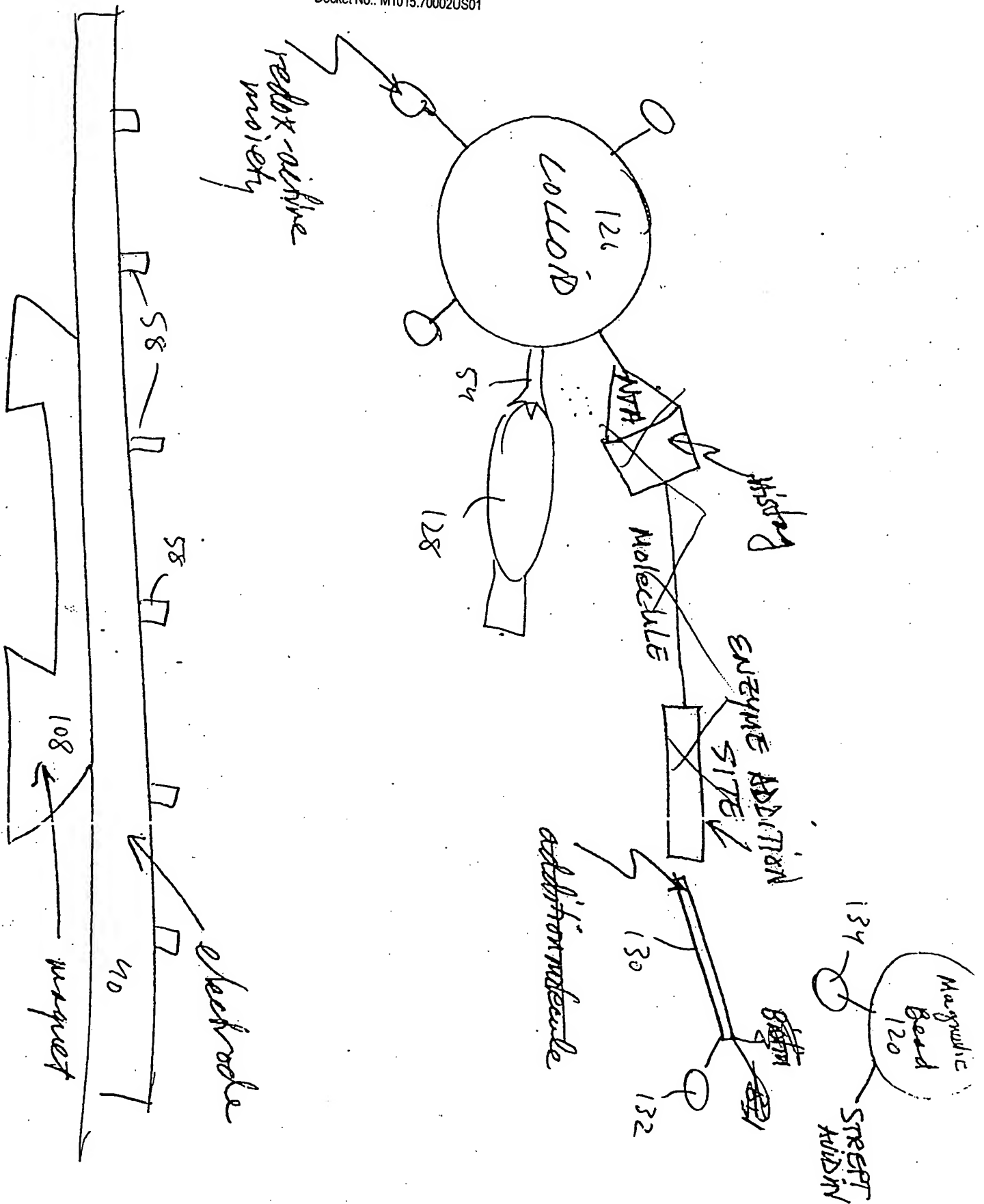


Figure 11

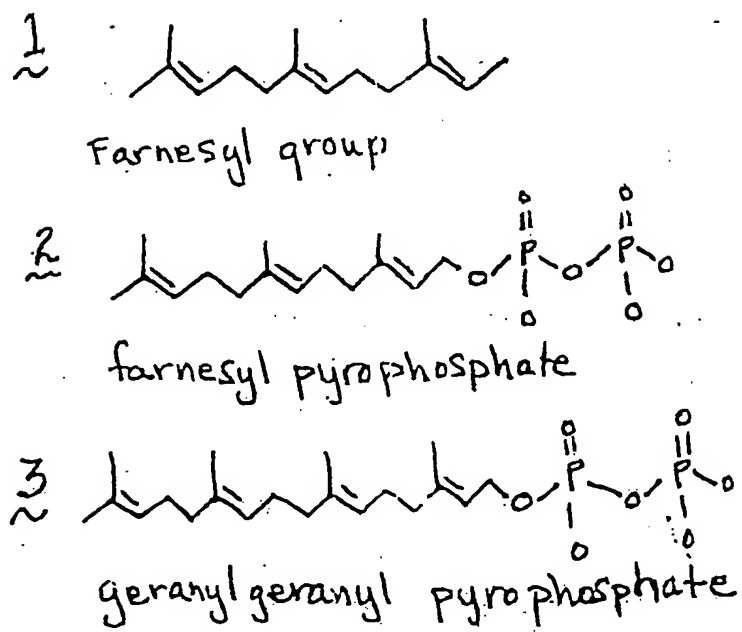
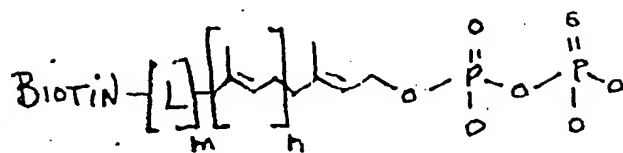


Figure 12

a)

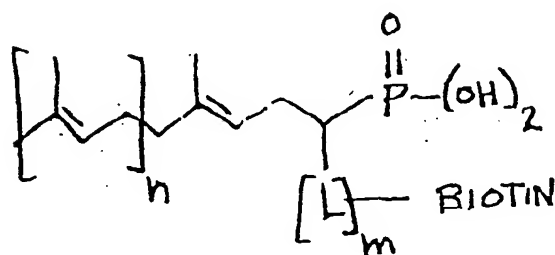


$n = 0-10$

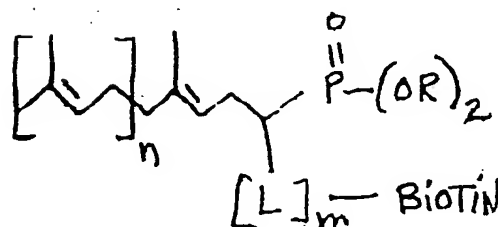
$L = \text{Linker}$

$m = 0-10$

b)



c)



d)

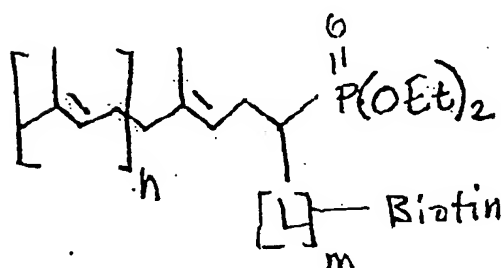


Figure 13

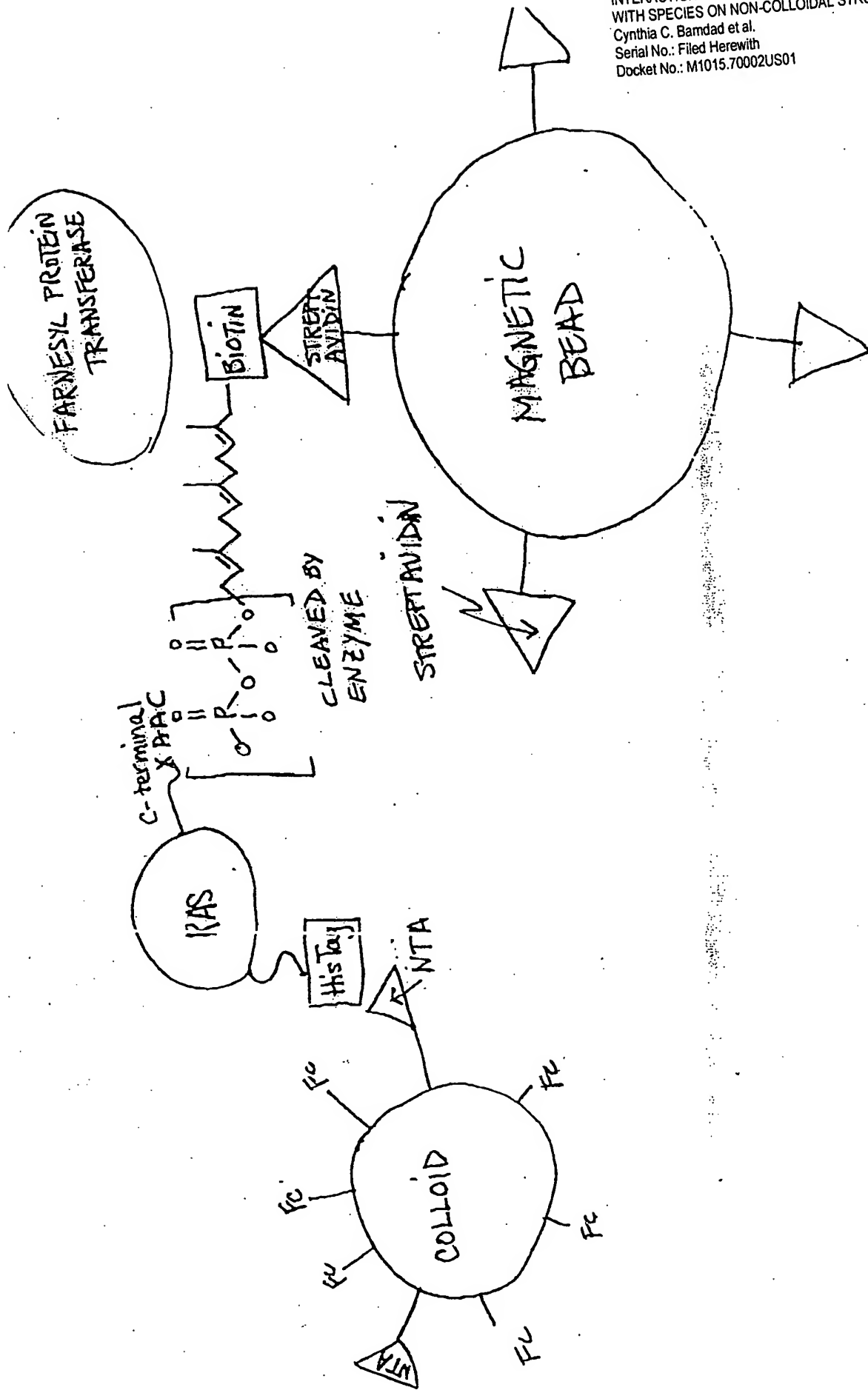


Figure 14

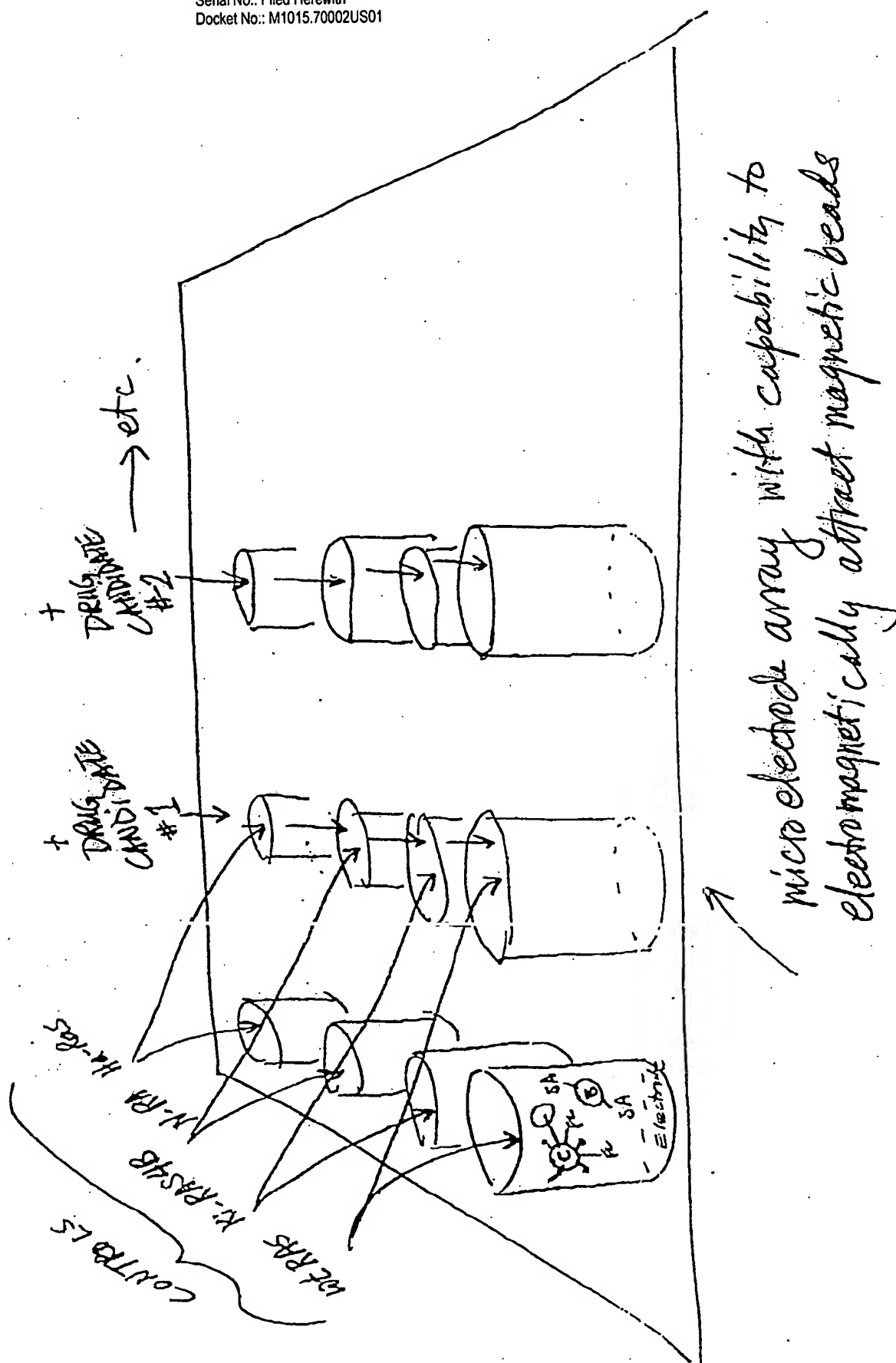


Figure 15

Sept. 28, 1999 21:43:48

Tech: ACV

File: cb038_011.bin

Init E (V) = 0

Final E (V) = 0.9

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

Quiet Time (s) = 2

Sensitivity (A/V) = 2e-6

● cb038_011.bin

× cb038_012.bin

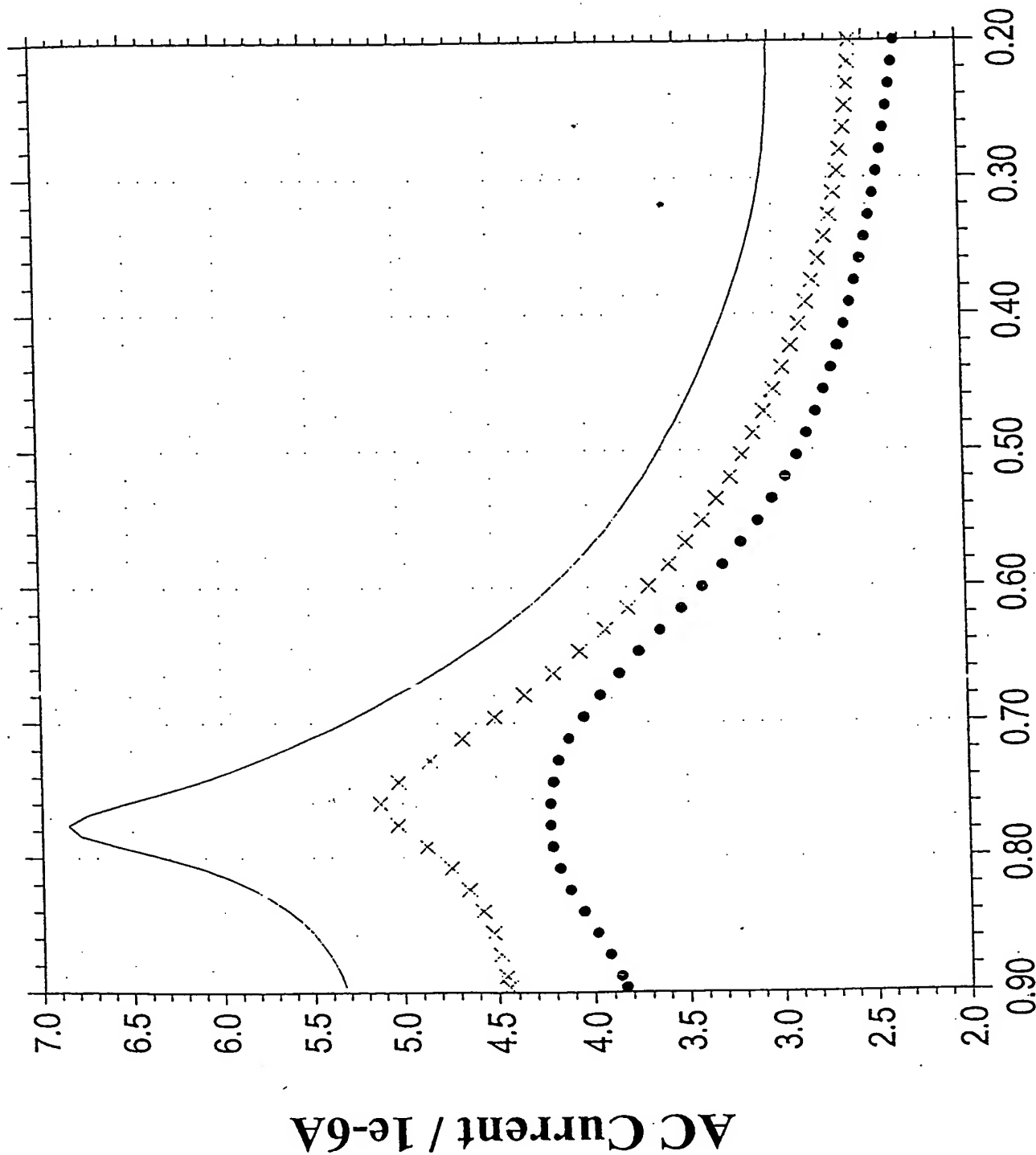
— cb038_013.bin

—

—

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
Docket No.: M1015.70002US01

Fig 1A



Potential / V

Fig. 1b

Sept. 28, 1999 22.22.11

Tech: ACV

File: cb038_014.bin

Init E (V) = 0

Final E (V) = 0.9

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

Quiet Time (s) = 2

Sensitivity (A/V) = 2e-6

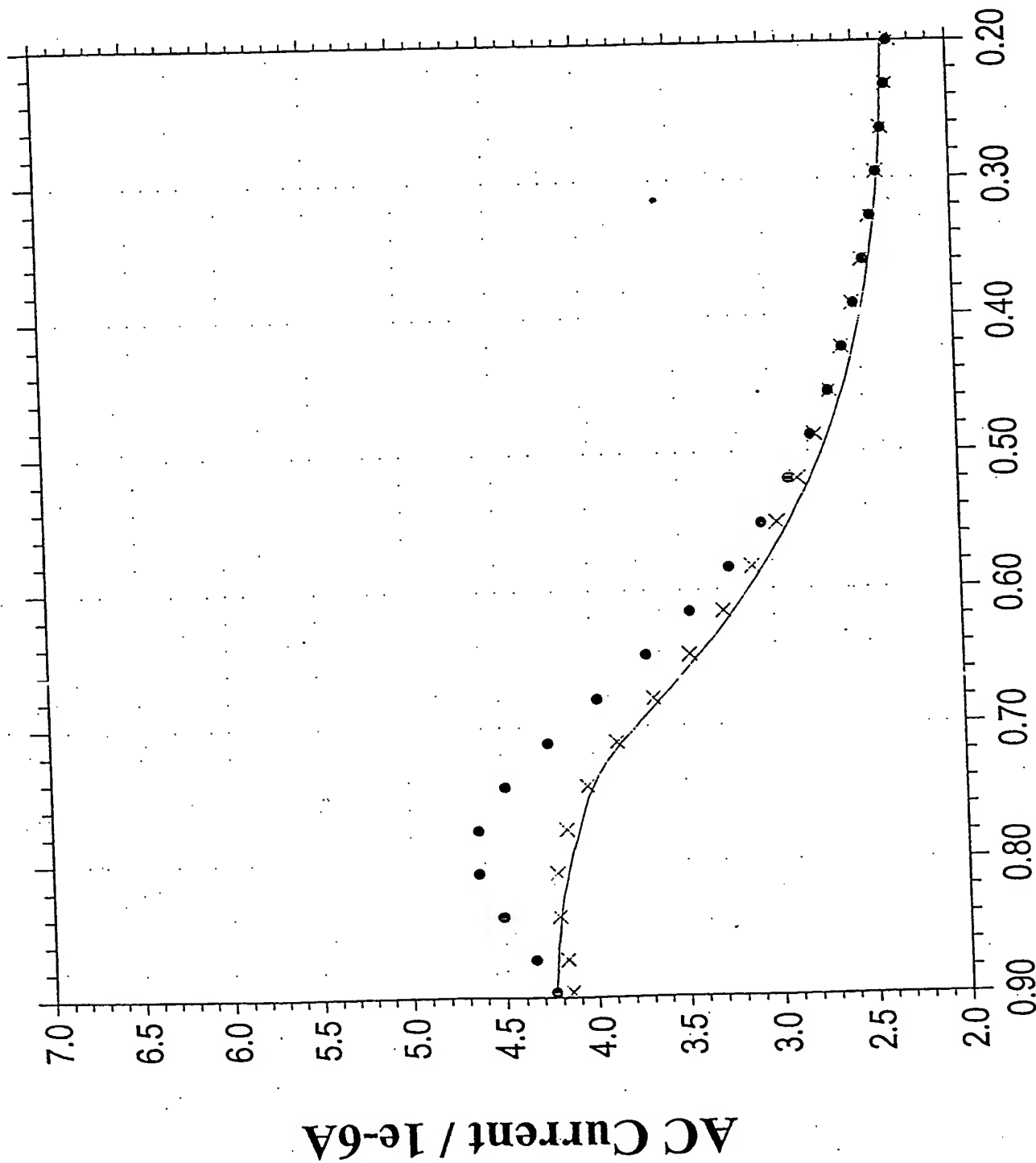
● cb038_014.bin

× cb038_015.bin

— cb038_016.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Fig 1b



Potential / V

Fig. 17

Oct. 5, 1999 16:34:32

Tech: ACV

File: cb042_002.bin

Init E (V) = 0

Final E (V) = 0.9

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

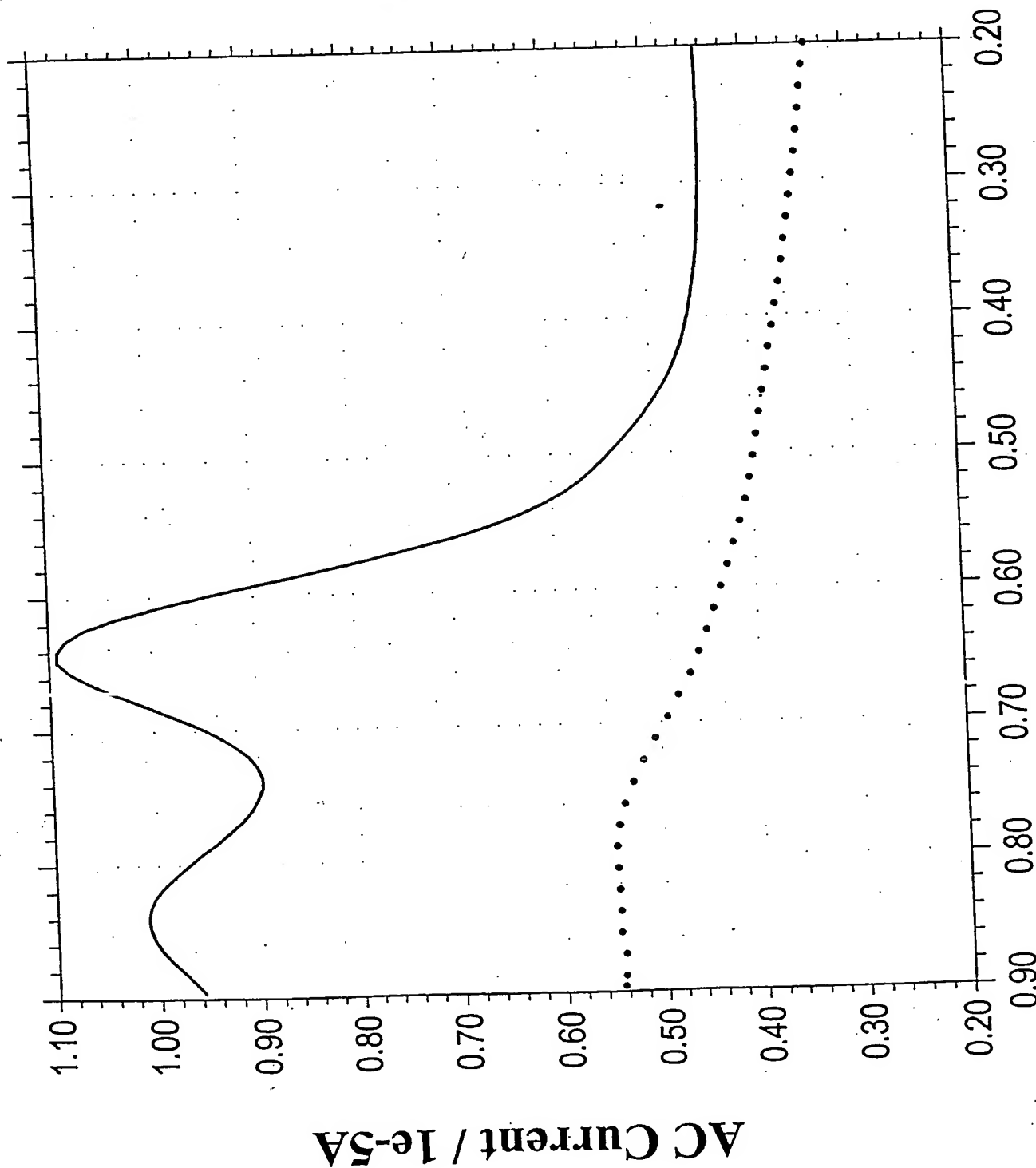
Quiet Time (s) = 2

Sensitivity (A/V) = 5e-5

— cb042_002.bin

● cb042_005.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Potential / V

Fig. 18

Oct. 6, 1999 14:26:57

Tech: ACV

File: cb042ba15

Init E (V) = 0

Final E (V) = 0.9

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

Quiet Time (s) = 2

Sensitivity (A/V) = 5e-5

— cb042ba15

● cb042b16.bin

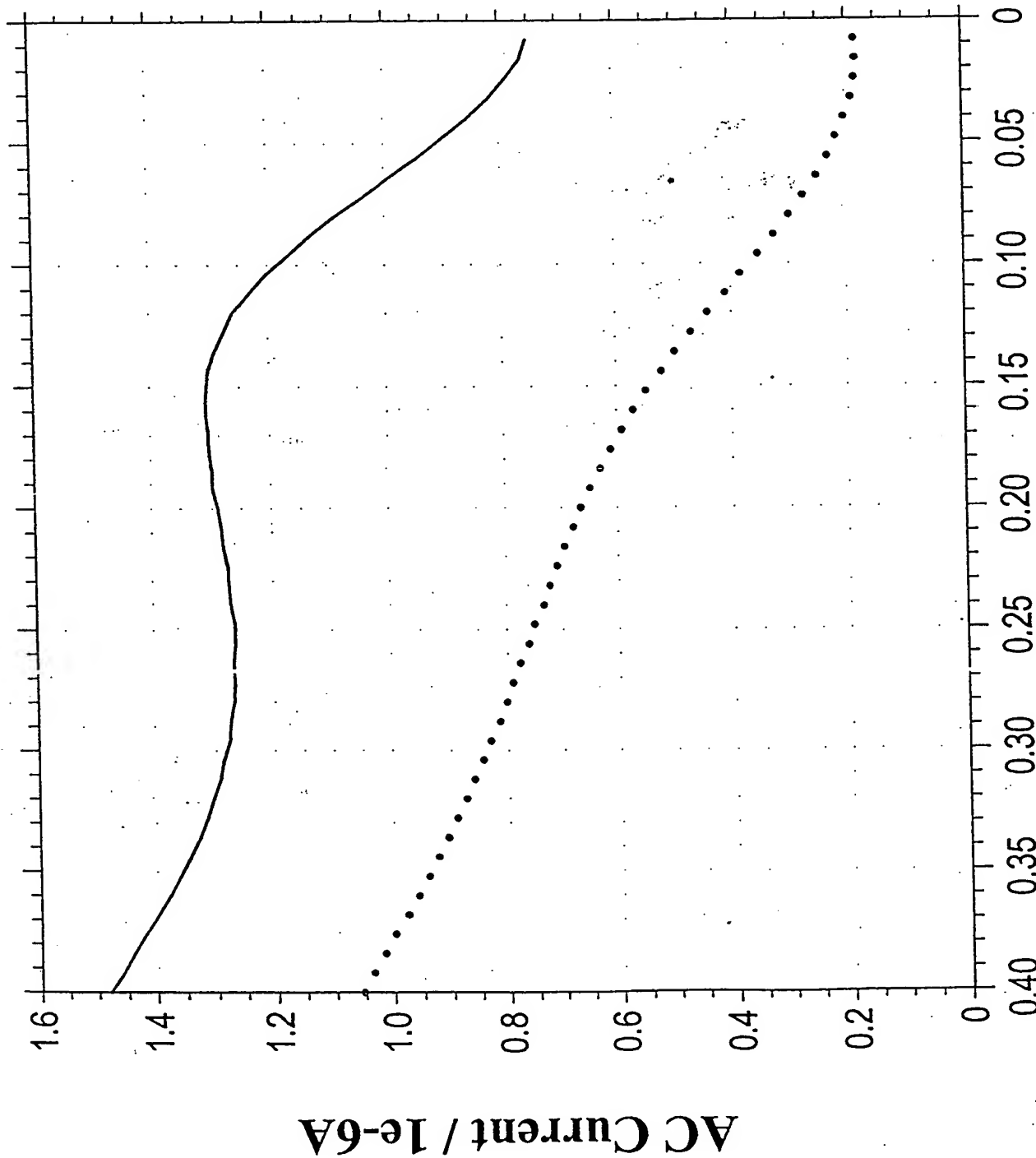
INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
Docket No.: M1015.70002US01

Fig 3

Date Recd: Dec 11/99 V Mathy

Potential / V

Fig. 19



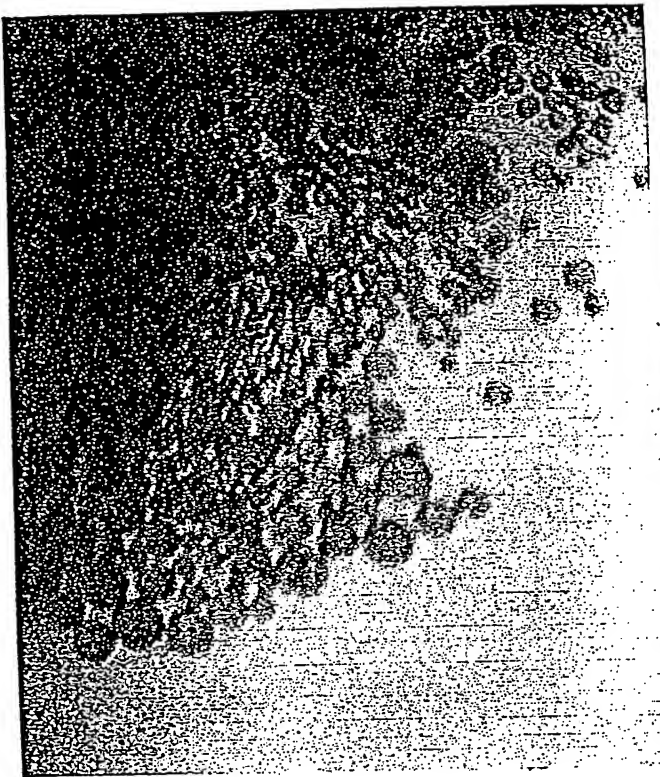


FIG 20

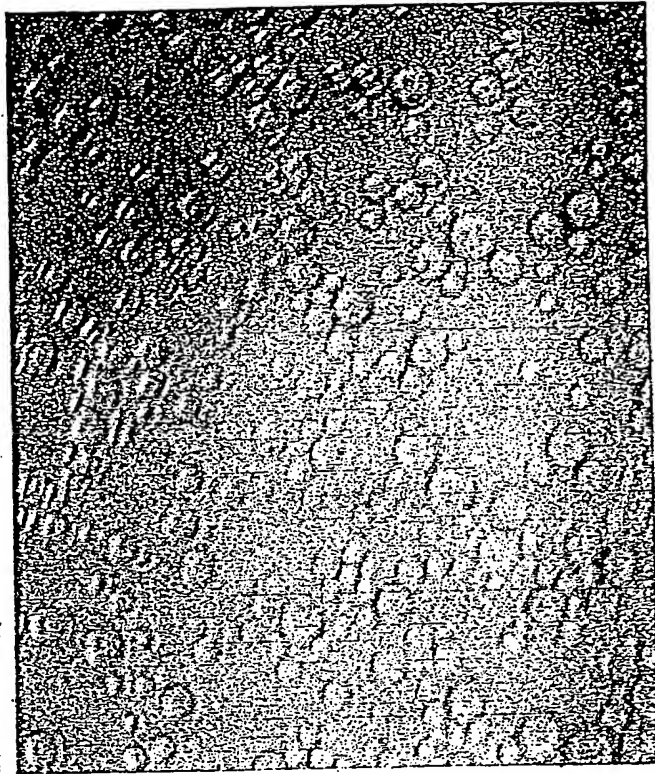


FIG 21

0	0	0
25	34	8
50	12	57
65	107	98
80	220	194

Fig 4

Current peak height as a function of molecular
wire density in SAM

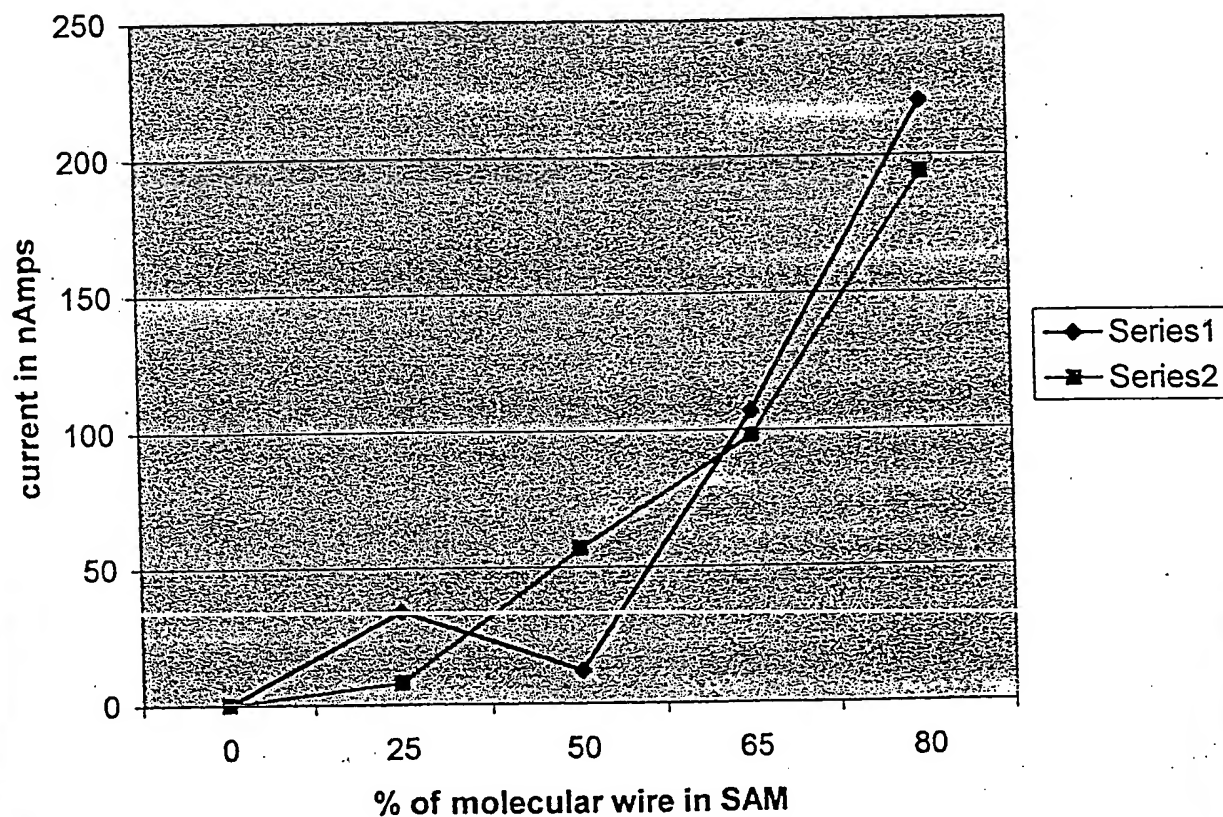


Fig. 22

Sept. 30, 1999 17:16:37

Tech: ACV

File: cb040_019.bin

Init E (V) = 0.3

Final E (V) = 0.7

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

Quiet Time (s) = 2

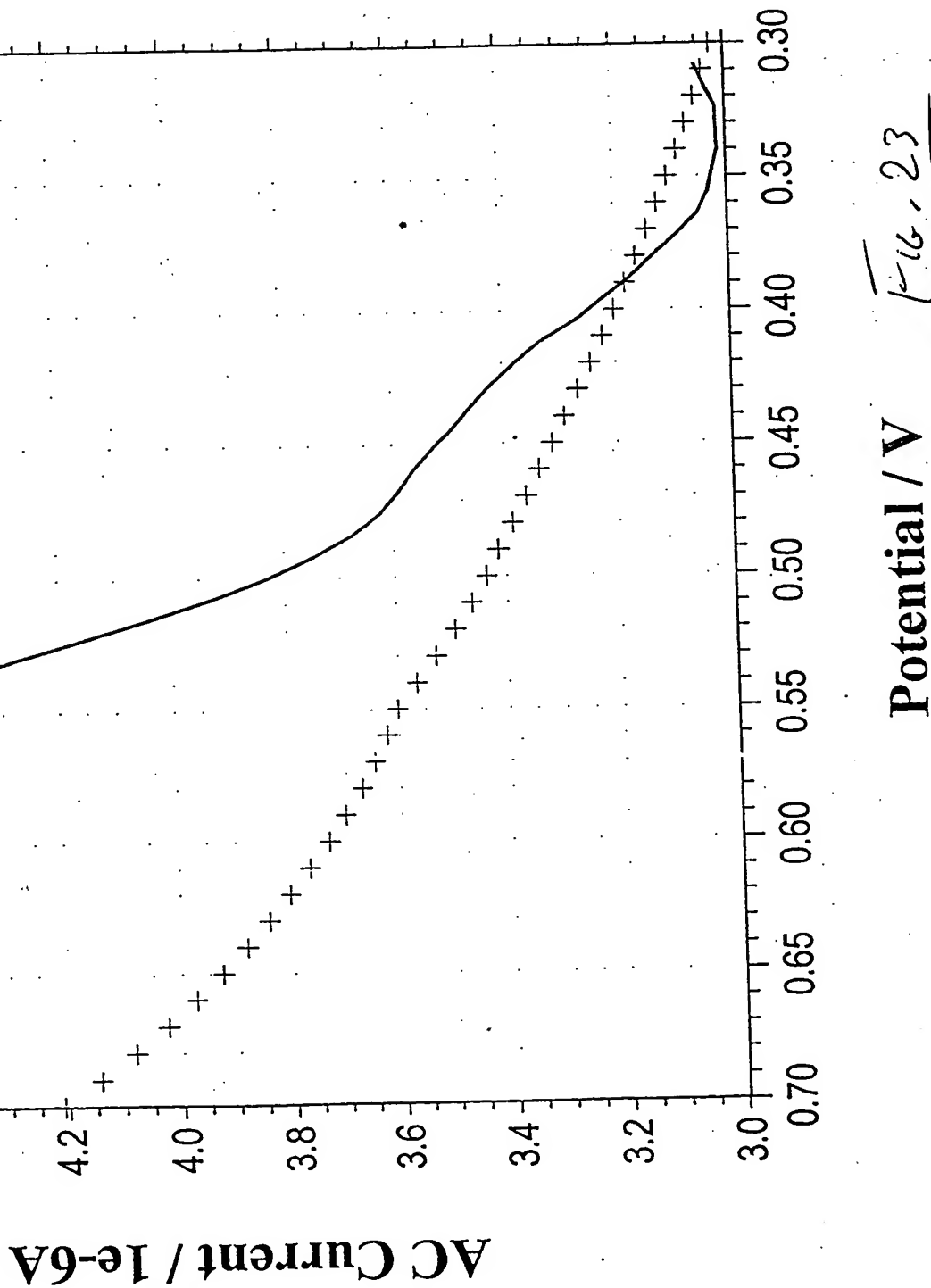
Sensitivity (A/V) = 1e-4

— cb040_019.bin

+ cb040_001.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Cynthia C. Bamdad et al.
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R-cy 5b



Sept. 30, 1999 16:03:15

Tech: ACV

File: cb040_006.bin

Init E (V) = 0.3

Final E (V) = 0.7

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

Quiet Time (s) = 2

Sensitivity (A/V) = 1e-4

— cb040_006.bin

+ cb040_011.bin

* cb040_019.bin

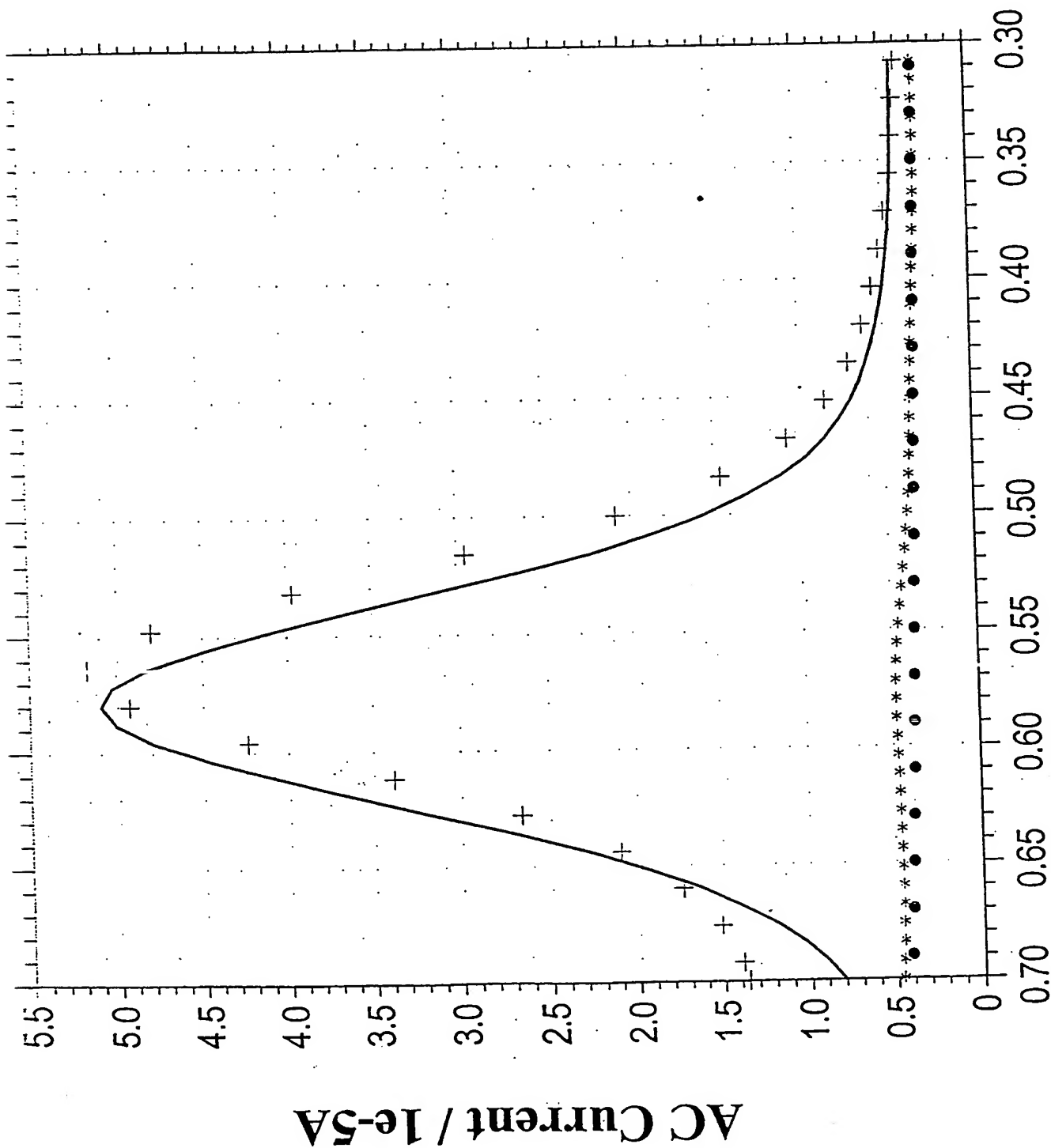
● cb040_001.bin

—

—

—

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Potential / V

Fig. 24

Fig 6a

Jan. 11, 2000 12:38:39

Tech: ACV

File: sb062_007bb

Init E (V) = 0.1

Final E (V) = 0.7

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

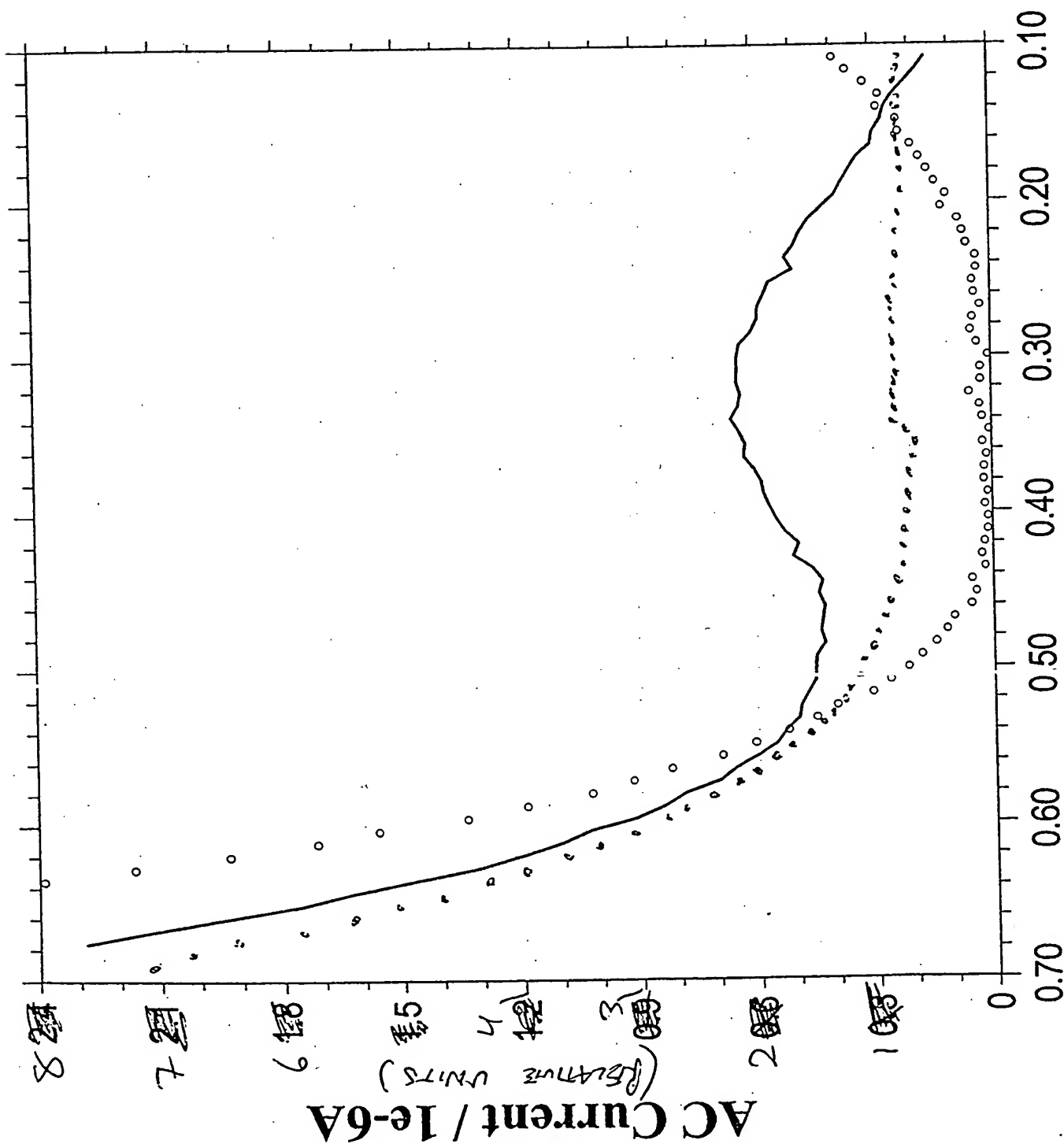
Quiet Time (s) = 2

Sensitivity (A/V) = 5e-4

— sb062_007bb

○ sb062_012bb.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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Potential / V

Fig. 25

Nov. 24, 1999 11:23:34

Tech: ACV

File: negconbbb.bin

Init E (V) = 0

Final E (V) = 0.8

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

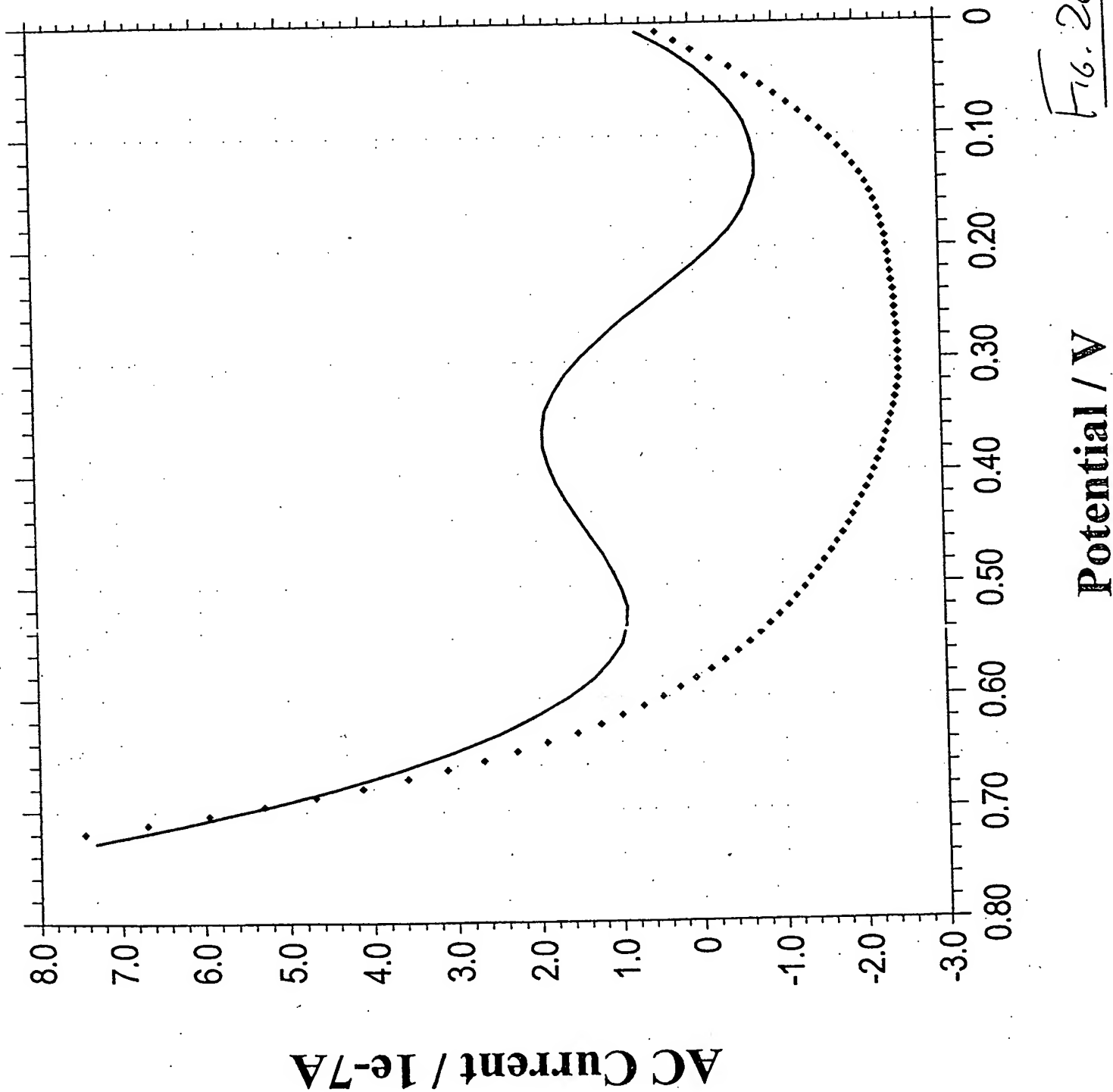
Quiet Time (s) = 2

Sensitivity (A/V) = 1e-5

◆ negconbbb.bin

— posconb.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
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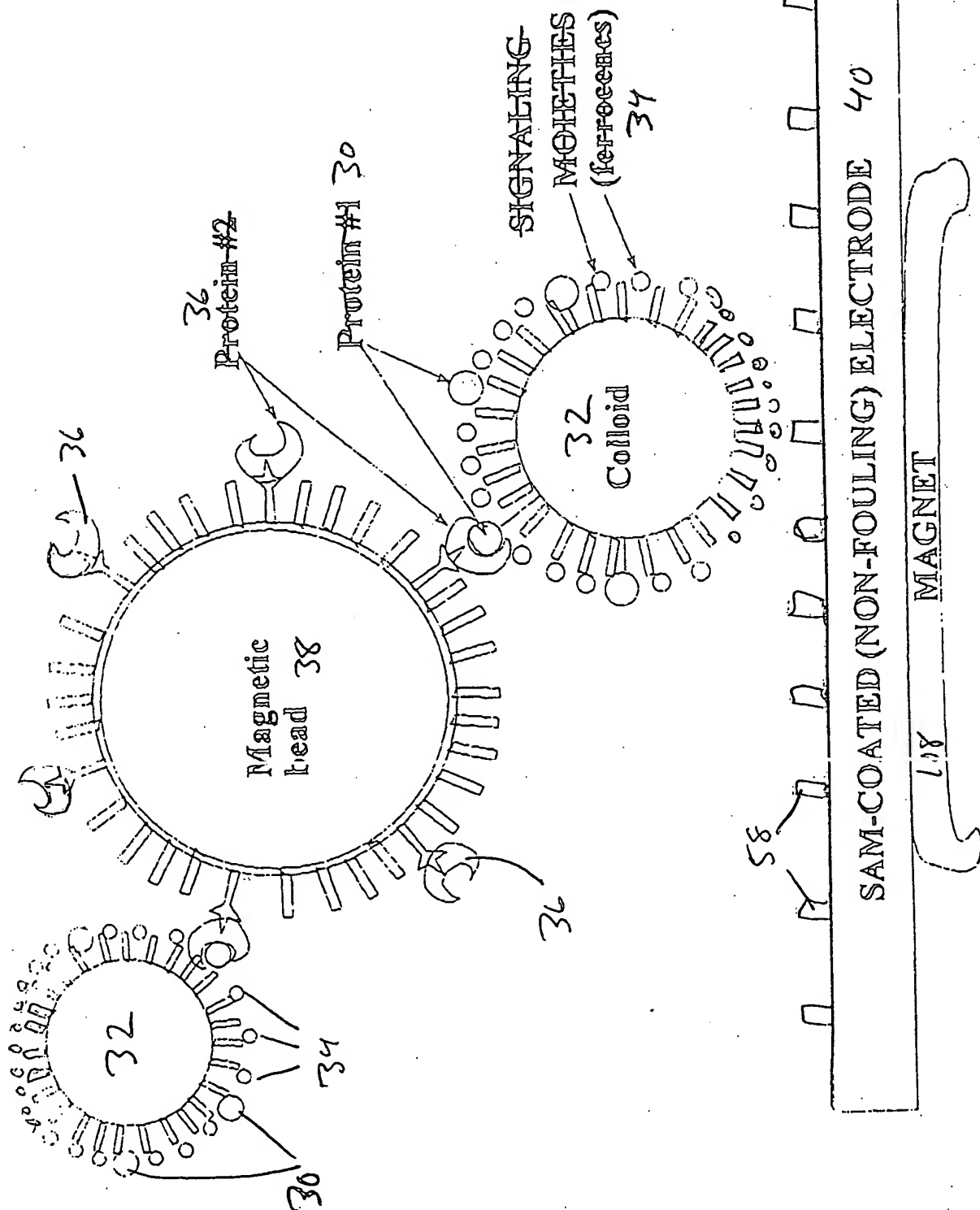


FIG. 27

Sept. 2, 1999 20:20:54

Tech: ACV

File: cb027_009.bin

Init E (V) = 0.18

Final E (V) = 0.58

Incr E (V) = 0.008

Amplitude (V) = 0.025

Frequency (Hz) = 10

Sample Period (s) = 1

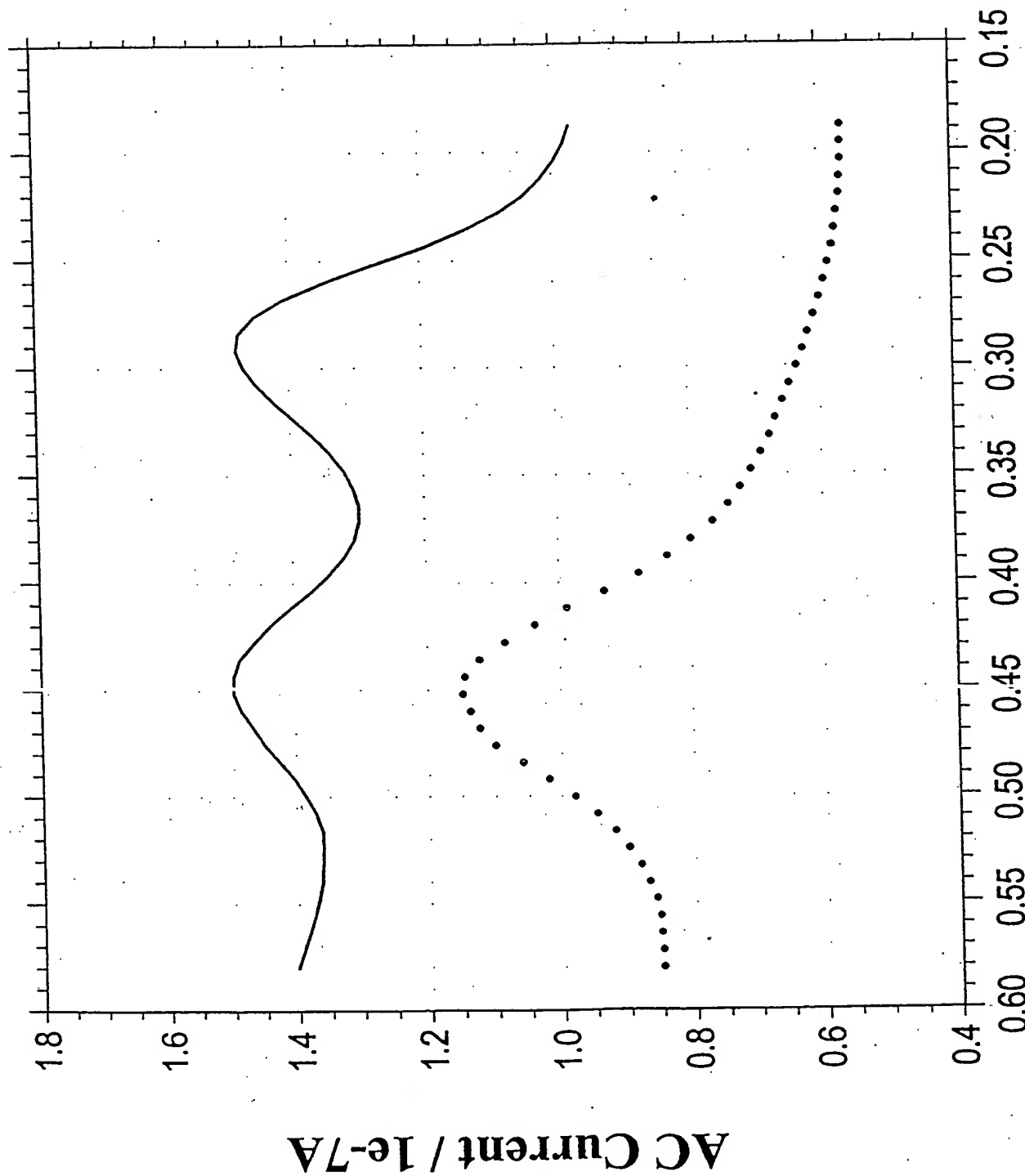
Quiet Time (s) = 2

Sensitivity (AV) = 2e-6

● cb027_009.bin

— cb027_013.bin

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
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Potential / V

Fig. 28

INTERACTION OF COLLOID-IMMOBILIZED SPECIES
WITH SPECIES ON NON-COLLOIDAL STRUCTURES
Cynthia C. Bamdad et al.
Serial No.: Filed Herewith
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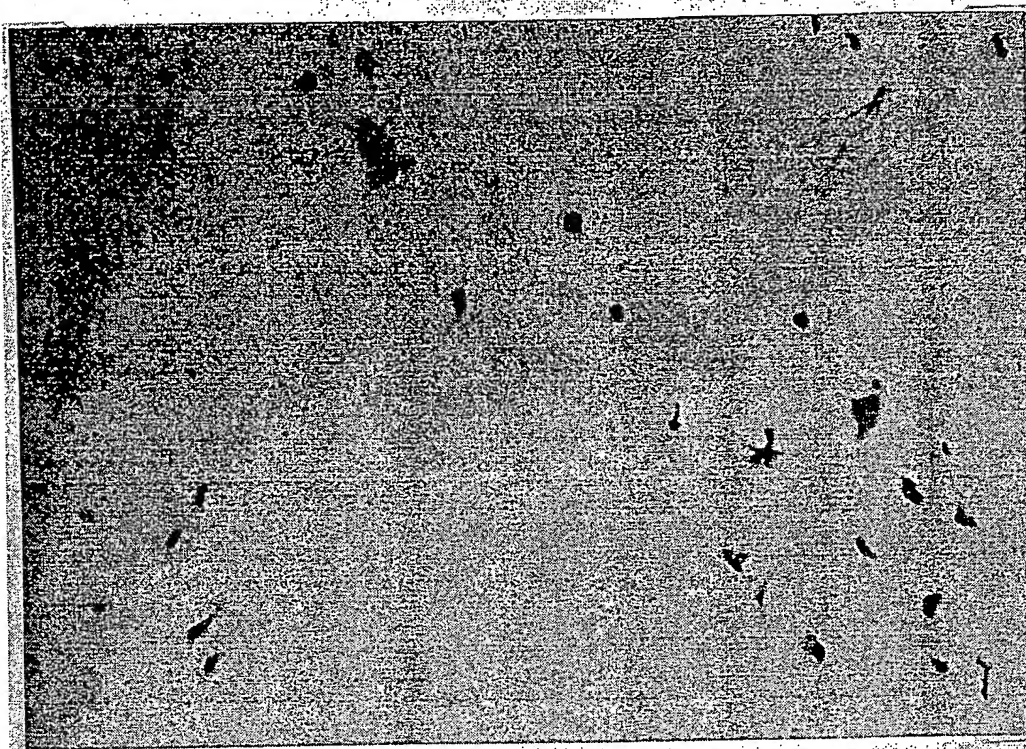


Fig. 298

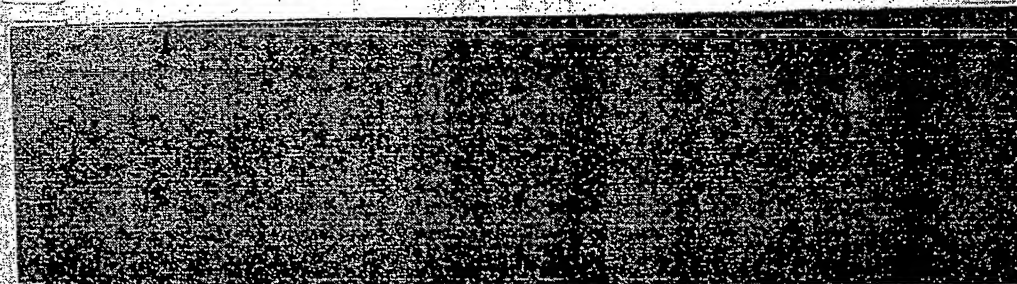
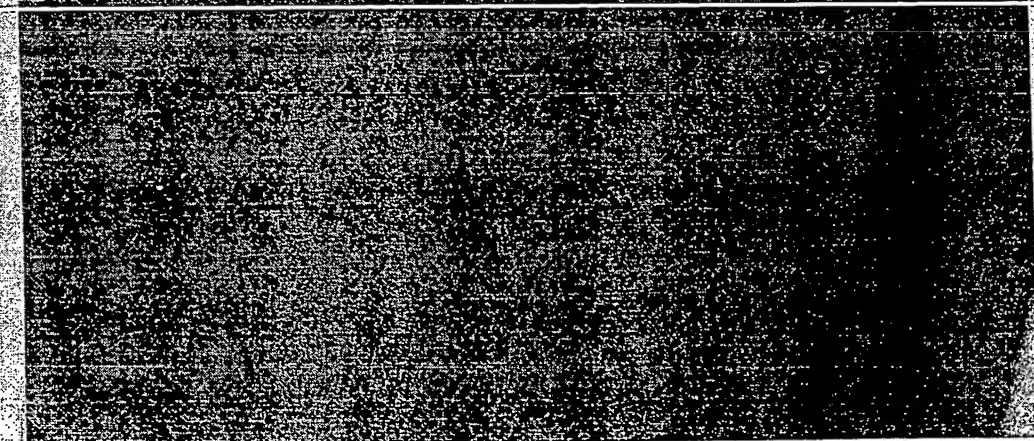


Fig. 299



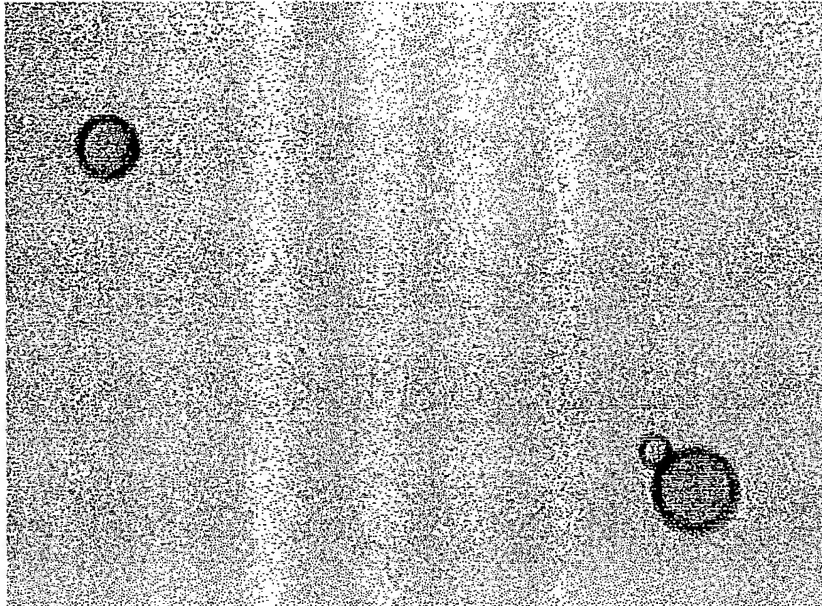


Fig 308

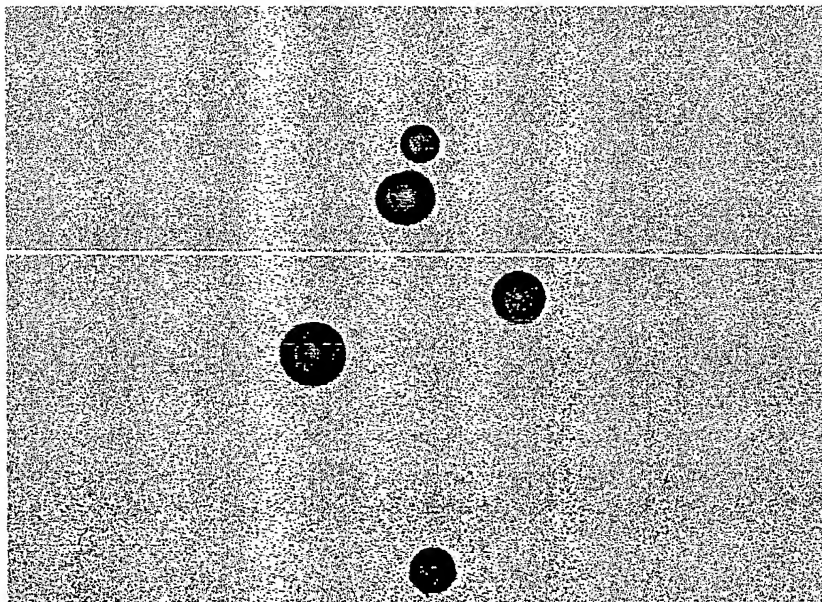


Fig 304

Colloid Modified ELISA Yields a Million-Fold Increase in Sensitivity



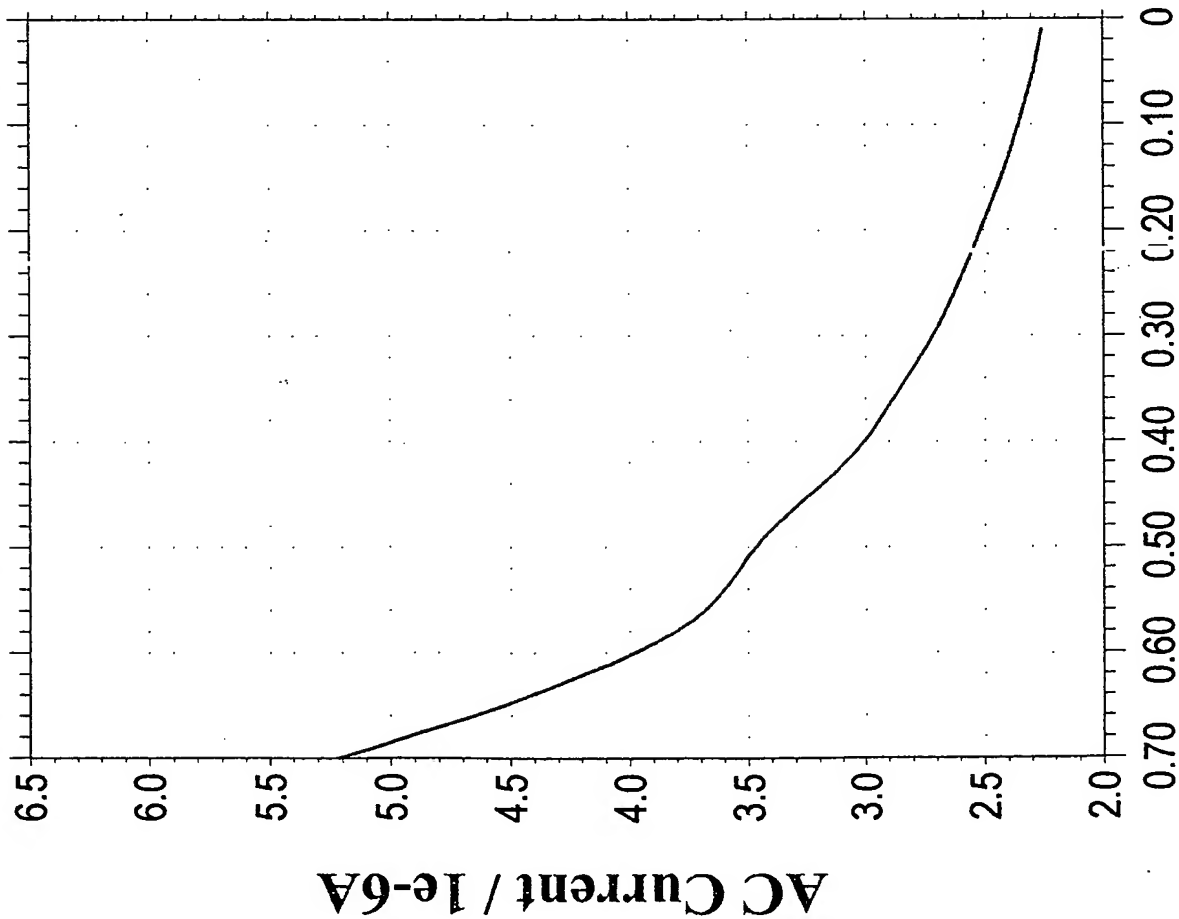
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Target protein (grams)

Fig. 31

25% MFI chip with GSI-COLLOIDS

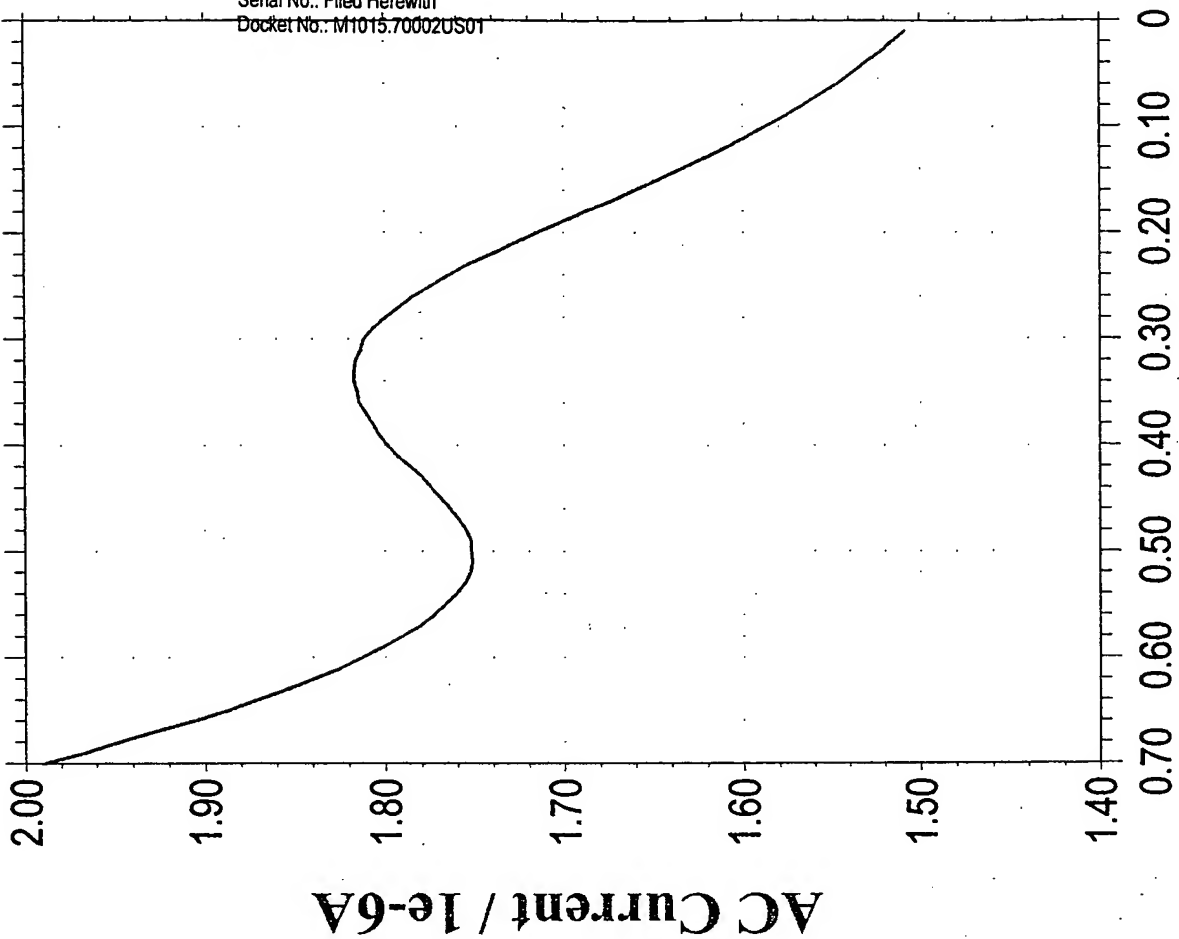
unbound colloids in solution.bin



Potential / V

Fig. 32A

bound to glutathione beads.bin



Potential / V

Fig. 32B